BPA AND Y2K

APRIL 1999

A quarterly status report for BPA customers, constituents, employees and the public on BPA's Year 2000 readiness

BPA is Y2K ready!

BPA has met the deadline. As of March 31, 1999, we are Y2K ready. Hardware, software, equipment, systems – mission critical and mission essential – have been tested and made ready for Y2K.

Completing Y2K testing and remediation is a huge milestone for BPA. It's the foundation of our Y2K efforts. We have met our commitments — to the federal government, our business partners and the electricity consumers of the Pacific Northwest — to be Y2K ready by March 31. It is testimony to the hard work and seriousness of BPA's Y2K effort.

But we're not resting on our laurels now.

Finding, testing and remediating, while hugely important, are only the first part of BPA's Y2K program. Y2K contingency planning, "clean management" and emergency response planning will continue right up to Dec. 31, 1999…and beyond. The BPA power system is well positioned to continue to operate safely and reliably going into the next millennium.

What does "ready" mean?

BPA's Agency-Wide Y2K Readiness Program defines "Y2K ready" as "hardware (including embedded chips), software, applications and integrated systems… assessed and determined to be functional into and through the year 2000." When we say BPA is Y2K ready, we mean that we:

- Have tested our automated business systems and date-sensitive equipment for Y2K readiness. Where needed, we replaced, repaired or reprogrammed the equipment. Then we tested it again.

- Have put in place an ongoing program to test new equipment or systems, upgrades and repairs added after March 31 so that these do not affect our Y2K readiness. (We call this "clean management.")

BONNEVILLE POWER ADMINISTRATION

Progress report: BPA's Y2K readiness

(This status report will be updated and printed in every issue of BPA and Y2K.)

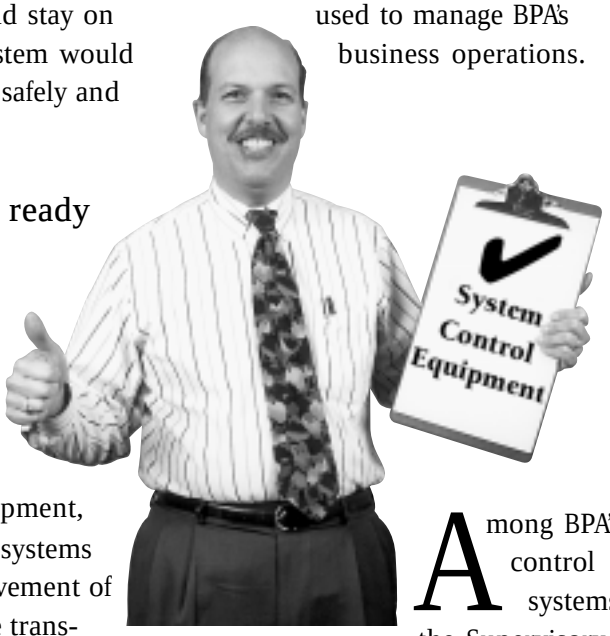
Milestones	Target	Status
Conduct inventory	August 1998	Completed July 1998
Develop Y2K testing guidelines	August 1998	Completed August 1998
Assess risk	September 1998	Completed October 1998
Develop test plans	October 1998	Completed October 1998
Test components	January 1999	Completed January 1999
Test systems and implement Y2K solutions (including re-testing)	March 1999	Completed March 1999
Develop contingency plans	Ongoing	Ongoing

- Are confident that, if Jan. 1, 2000, were to happen tomorrow, the lights would stay on and BPA's power system would continue to operate safely and reliably.

The checklist: Y2K ready

BPA's Y2K-ready inventory of automated systems and equipment includes the following:

- ✔ system control equipment, which includes the systems that control the movement of electricity across the transmission grid;
- ✔ relays and metering equipment, which monitor activity on the grid and measure or respond to it to provide system protection and monitoring;
- ✔ communications equipment, from radios to microwave; and
- ✔ computer networks, workstations, business systems and personal computers, including the many software applications used to manage BPA's business operations.



Among BPA's control systems, the Supervisory Control and Data Acquisition (SCADA) system and the Real-Time Operations, Dispatch and Scheduling (RODS) system were major Y2K efforts. Working out of BPA's two control centers, dispatchers use SCADA and other systems to control the operations of the BPA electrical transmission system through automated signals.

RODS is an *integrated system*, which means it interconnects and controls the operation of many other elements of BPA's power system, including transmission scheduling, automatic generation control, and plant operations and billing. After remediation, off-line Y2K integrated system tests showed that RODS rolled over successfully to the new year. Programmers also checked operations of separate applications running on RODS for Y2K readiness.

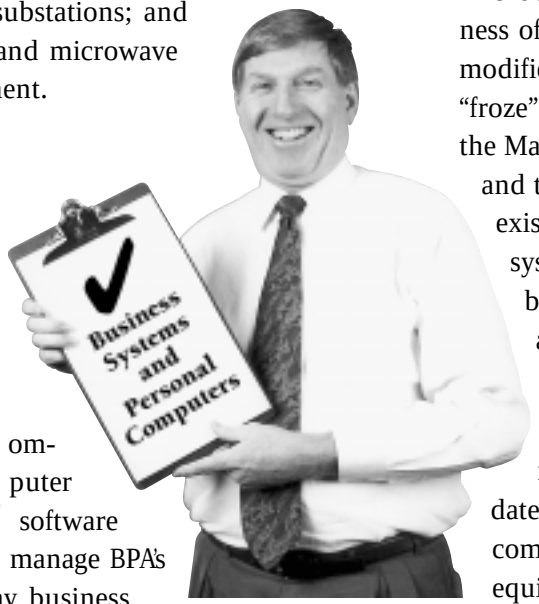
Remedial Action Schemes, or RAS, which enhance system reliability, are actually already operating in the year 2000.

Relays contain most of the *embedded chips* that are found in BPA's transmission system equipment.

Y2K is not limited to computer systems. Equipment everywhere – from telephones to heating systems to transmission system revenue meters – contains embedded computer chips that use the date or time in order to perform their functions.

Sometimes it's not obvious that a clock is involved in the operation of a piece of equipment, so BPA checked equipment manuals and contacted vendors to find out.

BPA's communications systems are Y2K ready, including the SCADA remote terminal units at BPA's substations that monitor, receive and communicate instructions from the control centers; a dedicated internal telephone system that communicates between BPA control centers and major substations; and radios and microwave equipment.



Computer software used to manage BPA's everyday business operations was inventoried, tested, upgraded or replaced.

Personal computers were also tested with a Y2K personal computer testing product called Ymark2000. Most PCs and workstations are connected to BPA's Local Area Network and will get the correct date from the server. BPA's mainframe computer was upgraded in 1998 to be Y2K ready. Servers, telephone switches, video conferencing equipment and audio conferencing equipment were also tested and remediated.

"Clean management"

Our existing systems are Y2K ready, but we don't stop there. Throughout this year and beyond, BPA will continue monitoring for Y2K readiness.

BPA acquires new components, updates systems and repairs equipment continually in order to maintain efficient and reliable operations. With each change, BPA will again check for Y2K readiness.

It's called "clean management," and it has these basic components:

- In order to test the Y2K readiness of systems that were being modified or upgraded, BPA "froze" these systems prior to the March 31 readiness target and tested them in their existing state. After the system was determined to be Y2K ready, modifiying and upgrading started up again.
- When BPA repairs, modifies or upgrades date-sensitive equipment or computer programs, the equipment will be re-tested after the repair to check that the repair did not introduce a Y2K problem.
- New software programs, computer hardware, date-sensitive equipment and components that BPA purchases after March 31 will be type tested for Y2K readiness before they are put into production.
- BPA is working with its contractors on our strict standards for Y2K monitoring and testing, and we're including provisions in many of our contracts for Y2K readiness disclosures.
- Between the dates of Nov.15, 1999, and Jan.15, 2000, BPA will put a freeze on implementation of any new computer hardware (including embedded chips), software, applications and integrated systems, including upgrades or modifications.

Several tests used

For much of its equipment, BPA used a three-phased Y2K testing process :

Step 1

Test individual components, such as an individual relay type or a computer software program.

Step 2

Test the components operating together. In the normal operation of the power system, equipment and computer systems operate together and interact. So BPA did an "integrated system test" for Y2K readiness.

Step 3

Test the equipment on the power system ("live" tests) while the system is in operation.

The entire Federal Columbia River Power System is Y2K ready

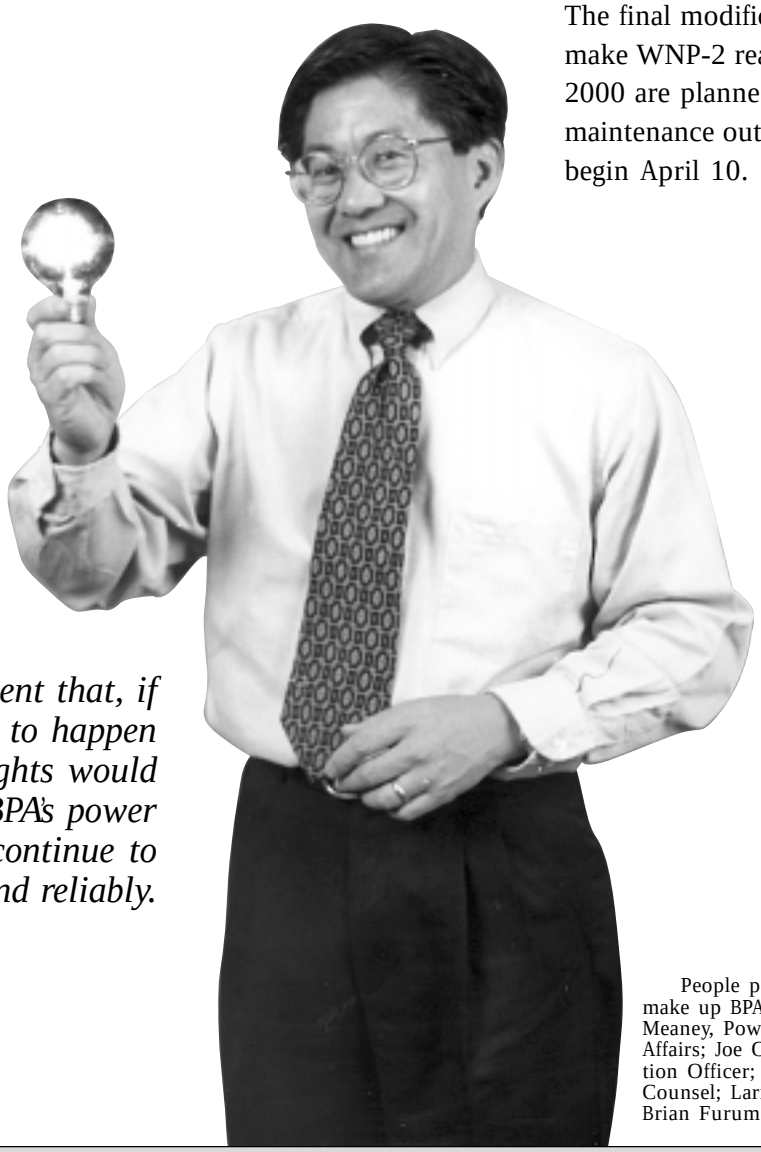
BPA operates three-quarters of the region's transmission grid, but the power it sells comes from plants owned and operated by other federal agencies. The U.S. Army Corps of Engineers and the U.S. Bureau of Reclamation own and operate the 29 federal dams that supply about 85 percent of BPA's power, and have announced that they are Y2K ready as well.

The Corps has announced that its automated systems have undergone a complete inventory and assessment for Y2K readiness, and their mission-critical systems and facilities are fully Y2K ready.

The Bureau of Reclamation announced that it has certified all mission-critical software systems, evaluated all embedded microchips and renovated or replaced mission-critical equipment where needed to make it Y2K ready.

The Washington Public Power Supply System's Plant 2 near Richland, Wash., supplies about 10 percent of BPA's power. WNP-2 has indicated that they will be Y2K ready by July 1, consistent with a directive from the Nuclear Regulatory Commission. An NRC team audited the plant's Y2K preparations earlier this year and came away pleased with the progress made. The final modifications needed to make WNP-2 ready for the year 2000 are planned for a two-month maintenance outage scheduled to begin April 10.

BPA is confident that, if Jan. 1, 1000, were to happen tomorrow, the lights would stay on and BPA's power system would continue to operate safely and reliably.



People pictured in this newsletter make up BPA's Y2K team: Deidre Meaney, Power; Barry Hirsch, Public Affairs; Joe O'Rourke, Chief Information Officer; Arlena Barnes, General Counsel; Larry Simms, Corporate; Brian Furumasu, Transmission.

Information in *BPA and Y2K* is provided in line with the Year 2000 Information and Readiness Disclosure Act, which "…encourages the disclosure and exchange of information about computer processing problems, solutions, test practices and test results, and related matters in connection with the transition to the year 2000."

BPA and Y2K will be published quarterly. For additional copies or to add a name to the mailing list, please call BPA's Public Information Center, at 1-800-622-4519. Also, visit our Web site at *www.bpa.gov.*; there is a Y2K button on our home page.

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